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Behavioral Intentions, Actual Behavior and the Role of Personality Traits. Evidence from a Factorial Survey Among Female Labor Market Re-entrants

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Abstract

Factorial surveys (FS) are used frequently to draw conclusions about behavior. However, in FS only behavioral intentions are measured and answering fictive situations are likely to be connected with individual personality traits. Therefore, it is unclear to what extent behavioral intentions as measured by FS and actual behavior are related. It is also unclear whether and how personality traits influence intentions and actual behavior. This paper addresses this subject matter by analyzing these research questions. The theory of planned behavior serves as the theoretical basis (Ajzen, 1991).

The research questions are addressed with data from a factorial survey collected among 395 prospective female labor market re-entrants. They were asked about their willingness to accept lower wages if compensated by "positive" nonmonetary job characteristics. A follow-up study after one year also included information on actual behavior, i.e., whether the woman has found a job. The analysis reveals that women who are willing to accept "negative" job characteristics are more likely to re-enter employment, suggesting a high correlation between results from the factorial survey and actual behavior and thus external validity. Furthermore, personality traits only have a minor influence on behavioral intentions and behavior. This confounds previous non-experimental research results. However, some individual effects are different in the intentions and behavioral model, which also indicates differences between experimental and real-world settings.

Keywords: factorial survey, vignette study, personality traits, intentions and actual behavior, mother's labor market re-entry

Factorial surveys (FS) are a powerful tool for collecting information on norms and attitudes (cf. Auspurg & Hinz, 2015). In recent decades, research using FS has rapidly increased (cf. Wallander, 2009). The method makes use of different fictive situations that must be judged in an interview sequentially by the respondents. In addition, FS can also be used to draw conclusions about behavior or more precisely about behavioral intentions (e.g., Abraham et al., 2013; Nisic & Auspurg, 2009).

When measuring behavioral intentions instead of behavior, first the question arises whether behavioral intentions as measured by FS are related to actual behavior. Second, it is unclear how personality traits influence intentions and actual behavior. Third, it is unclear whether the assumed link between intentions and behavior works differently for individuals with different personality traits. Thus, we examine the role of personality traits for the interplay of intentions and behavior. We use the FS framework that allows examining the role of personality traits for the same respondents and studying a similar situation in a fictional as well as real-world setting. This is important because personality traits might affect actual behavior in a different way than they might affect behavioral intentions. In addition, individuals with different personality traits might respond to fictive situations in another kind of way because they are stimulated differently by them. This of course would confute the general applicability of factorial surveys. In sum, this contributes to further knowledge about the external validity of FS which is regarded as a research gap (Auspurg & Hinz, 2015).

So far, research on the comparison of intentions and actual behavior in the FS survey framework has mostly focused on mobility decisions and decision intentions. Nisic and Auspurg (2009) conclude that the intention to move as measured by a factorial survey and realized moves observed in a representative population survey are driven largely by the same factors, although the magnitude of planned and actual moves is different. Also, Hainmueller, Hangartner, and Yamamoto (2015) examine citizenship decisions in a survey experiment and in a behaviorial setting and find that the survey experiment leads to a reliable estimation of the effects as

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compared to the real-world. However, little is known about the cognitive processes underlying the response to a factorial survey (Auspurg & Hinz, 2015).

With respect to previous research about the relation between intentions and behavior in general not focusing on the FS framework, psychological research has proven in many different contexts that this relation exists but that the magnitude depends on the specific conditions under study (for an overview we refer to Ajzen, 1991). Psychological research sometimes finds a low correlation between general personality traits and behavior in a specific situation (e.g., Mischel, 1968). In contrast, Back, Schmukle, & Egloff (2009) report that direct and indirect measures of personality predict various types of behavior. However, coming from a survey methodological perspective, we are not interested in studying the intra-individual differences in intentions and behavior but whether (prospective) behavioral intentions as measured with FS and (retrospectively measured) behavior as measured in general social surveys are related to each other and to what extent personality influences this relationship.

Answers of respondents of FS on behavioral intentions and behavior itself can be suspected to be prone to be biased through different personality traits of individuals. Several studies from the field of economics (for an overview we refer to Almlund et al. 2011) have used the concept of personality to study their impact with respect to different labor market behaviors, for example, smoking (Anger, Kvasnicka, & Siedler, 2011) or income (Heineck & Anger, 2010).

With respect to our example - the labor force participation decision of mothers - economic literature has examined the influence of personality traits on actual behavior (Wichert & Pohlmeier, 2010; Berger, 2010). However, this research shows rather mixed results. While Wichert & Pohlmeier (2010, p. 16) conclude that "all personality traits except agreeableness significantly influence the participation decision", Berger (2010, p. 1) states that "the dimension agreeableness of the Big Five personality traits is found to be associated with later return to employment". Notably both articles studied the labor force participation of mothers in Germany in a similar timeframe. Both articles are based on the GSOEP data, and the instrument used to measure personality was the Big Five assessment as developed for the SOEP 2005 (BFI-S) (Gerlitz & Schupp, 2005; Dehne & Schupp, 2007). However, what is different is the sample. While Wichert & Pohlmeier (2010) use a cross-sectional dataset, Berger (2010) uses the SOEP as a longitudinal dataset.). Within the context of FS research, the relation between personality traits, behavioral intentions and actual behavior has not yet been studied to our knowledge.

Therefore, this article uses the return decision of mothers who have been out of the labor market for several years to study both behavioral intentions in a FS survey framework and the actual behavior of mothers in a real-world setting. The research questions will be addressed with data from a FS collected among 395 women who are prospective labor market re-entrants. They were asked about their

willingness to accept lower wages if compensated by job characteristics that are regarded as more favorable by society (e.g., not overqualified labor). The FS contains information on behavioral intentions that covers the likelihood of accepting a given job offer with certain characteristics. It also contains a short version (15-item version as used in the German Socio-Economic Panel) of the assessment of Five-Factor Model (Big Five) (Dehne & Schupp, 2007). A follow-up study after one year also includes information on actual behavior, i.e., whether a woman has found a job and, if so, the characteristics of this job.

Theoretical Framework and Hypotheses

The theory of planned behavior (TPB) (Ajzen, 1991) as an extension of the theory of reasoned action (Ajzen, 1988) is suitable to derive hypotheses on the influence that personality traits have on both actual and planned behavior. The TBP is a general and parsimonious model that predicts a broad range of behaviors (Connor & Abraham, 2001). According to this theory, attitudes, subjective norms and perceived behavioral control are related to behavior when certain assumptions are met. In our context, this makes it possible to relate re-entry intentions with realized job re-entries of mothers after family-related employment interruptions. Within the TPB also personality as a possible influence factor can be integrated (Connor and Abraham, 2001).

One prerequisite is that the measurement of intentions corresponds to the behavior that is aimed to be predicted (Ajzen, 1991). This is known as the compatibility principle. This principle claims that intentions and actual behavior are closely related when they address the same decision and are measured on the same level. This similarity refers to action, aim, context, and timing (Kalter, 1997). In our example, we measure intentions as re-entry willingness when a specific job offer with certain characteristics is presented. We also examine realized re-entries of mothers. Thus, we relate a decision with restricted information on certain job characteristics to a decision covering most likely more than the described job offer. Similarity with respect to action and aim is thus given. The context, however, is different: while intentions are measured through an experimental setting, realized entries refer to the actual behavior of an individual in a real-world setting. With respect to timing, we conclude that the situation is similar because women who are in the process of re-entry will be examined although they might not yet have been in the situation of being confronted with a job offer when the intention was measured.

Intentions include motivational factors that have an influence on behavior. As such, they are seen as an indicator of the extent to which individuals are willing

to exert the actual behavior. Not surprisingly, stronger intentions should lead to a higher likelihood of actually exhibiting the behavior (Ajzen, 1991).

Furthermore, the decision under study must be under the volitional control of the individual. Volitional control refers to whether the person can decide at will to perform or not perform the behavior. What is problematic is that some behaviors meet this requirement better than others. However, when a person has both the opportunity and resources, he or she should also be able to exhibit the behavior. In our example, we look at women who are prepared for a successful labor market re-entry and have the opportunity to accept a given job offer due to the positive general conditions in the German labor market. In sum, we expect that behavioral intentions and actual behavior are closely related *(hypothesis 1)*.

Due to the compatibility principle, rather general personality traits are expected to have no direct influence on the behavior itself *(hypothesis 2)*. Personality traits are assumed to have only an indirect impact by influencing factors that are more closely connected to the behavior (Ajzen, 1991). This is in line with previous argumentations from psychology that traits as broad behavior dispositions are not suitable to be linked with behavior in a very specific situation.

In addition, family (partnership status, age of youngest child) as well as individual characteristics (age, educational attainment, duration of interruption, and place of residence) can be assumed to influence an individual's decision to re-enter the labor market. However, these are not central for our argumentation and we refer to Drasch (2013) for a theoretical elaboration on the effects of those characteristics.

Data and Measurement

Data Collection

Data are taken from a supplement of an evaluation project ('Perspektive Wiedereinstieg' – PWE) developed by the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) and conducted on behalf of the Institute of Employment Research (IAB). This project aimed to re-include women in the labor market who had been inactive for at least three years but want to return to paid employment. In addition, a comparison group consisting of women who have been classified as prospective job returners ("Berufsrückkehrerinnen") not taking part in the evaluation project was generated through matching techniques (NN-matching on the regional level and propensity score matching on the individual level) (Diener et al., 2013). We use both groups and control whether the women belong to one or the other group in the statistical analyses.

A professional social research company conducted CATI interviews with two cohorts of project participants and two comparison groups of registered prospective

returners. After the first interview, all women were asked whether they were willing to participate in an add-on online survey containing the FS. If they stated their consent, their e-mail address was then noted down. Thus, the sample under study should be considered as a convenient rather than a representative sample. Knowledge about actual behavior or more precisely whether they had actually re-entered the labor market was generated through wave two panel data.[1]

In total, 395 prospective labor market re-entrants can be analyzed with the data. The prospevtive labor market re-entrants were all female because the prerequisite to take part in the program was to have interrupted employment due to family obligations. Because only very few men participated in the program, they were excluded from the quantitative part of the evaluation study. The participating women were asked about their willingness to accept lower wages if they were compensated by more favorable nonmonetary job characteristics. The factorial survey contains information on behavioral intentions, i.e., on the likelihood of accepting a given job offer with certain characteristics, as well as a short version (15 item-version as used in the German Socio-Economic Panel) of the Five-Factor Model (Big Five) that collects information on five central personality traits: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Furthermore, we include family as well as individual characteristics as control variables. For more information on the sample characteristics of the FS we refer to Drasch (2013).

Vignette Setup

FS, often alternatively called vignette studies, are suitable to model decisions in complex scenarios (Rossi & Anderson, 1982; Jasso, 2006). Respondents receive several hypothetical scenarios (vignettes) that include an independent variation of a limited number of dimensions. The independence of the dimensions is reached through external variation, which makes a causal interpretation of the dimensions possible. A convenient sample is then sufficient to make predictions about the relevance of the dimensions. Thus, a factorial survey can be regarded as a controlled experiment.

The vignettes consisted of several dimensions that are assumed to have an influence on the re-entry decision, i.e., search phase, search situation, training, work volume, commuting time, wage and working hours. Those dimensions are consistent with previous recommendations on the design of vignettes (cf. Auspurg & Hinz, 2015; Auspurg et al., 2015) of two (search phase and situation) or three (training, volume of work, commuting time, wage and working hours) variations of

1 Because of data protection regulations of the project, the data and the files cannot be made available to the public.

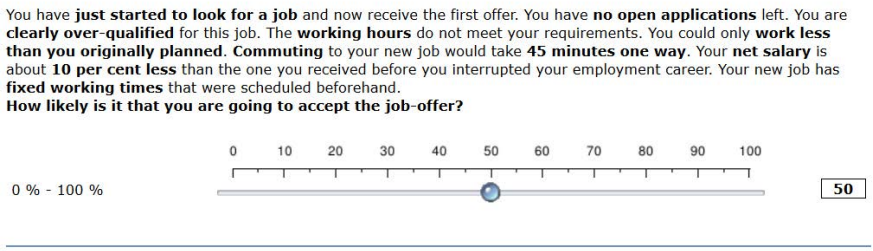

Figure 1 Sample vignette, own translation

the dimensions. These so-called levels were generated bearing in mind meaningful values for the group under study based on a review of the literature on job dimensions. Figure 1 shows a sample vignette.

Answers could be given on a scale ranging from 0 to 100 percent with 5 percent intervals. In sum, 21 answer categories were generated allowing the dependent variable to be treated as metric. More specifically, a number matching technique was used in line with magnitude scaling and the starting point for respondents was set at 0 percent. We are confident that these techniques combine the advantages and disadvantages of both techniques (Schaeffer & Bradburn, 1989).

The 2x2x3x3x3x3x3 levels of the dimensions resulted in 972 possible combinations. None of the combinations had to be excluded due to implausibility. To reduce the number of vignettes to 200, a resolution V design (Dülmer, 2007; Kuhfeld, Randall, & Garratt, 1994; Kuhfeld 2010) was chosen and the levels were orthogonalized to allow for estimation of the main level effects and first order interactions. This resulted in a D-efficient design with a D-efficiency of 98.1 with 100 being the maximum value. This is regarded (cf. Auspurg & Hinz, 2015; Dülmer, 2016) as very efficient.[2] A final step consisted of the random allocation of 10 vignettes to one deck of vignettes resulting in 20 decks. Those decks were then also randomly allocated to the respondents.

Big Five Personality Traits (BFI-S)

The measurement of personality is based on the Big Five approach, which assumes that personality is also reflected in answers to statements about one's attitudes. We use the shortest available two-minute-version for Germany (BFI-S) that covers 15 items measuring the concept's five personality traits: Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A) and Conscientiousness

2 We thank Katrin Auspurg, LMU Munich, for the technical implementation in SAS.

Table 1 Dimensions of the BFI-S (translated from German)

Trait	Item I see myself as someone who …	Cronbachs α
extraversion	… is communicative, talkative … is outgoing, sociable … reserved (-)	0.69 (0.61)
agreeableness	… has a forgiving nature … is considerate and kind to others … is sometimes somewhat rude to others (-)	0.50 (0.50)
conscientiousness	… does a thorough job … does things effectively and efficiently … tends to be lazy (-)	0.55 (0.67)
neuroticism	… is relaxed, handles stress well (-) … gets nervous easily … worries a lot	0.64 (0.57)
openness	… is original, comes up with new ideas … has an active imagination … values artistic experiences	0.72 (0.73)

(-) negatively coded items are reversed before analysis; results for Cronbachs α from SOEP 2005 pretest in parentheses

(C). The version was developed for the German Socio-Economic Panel and was used for the 2005 wave (Gerlitz & Schupp, 2005; Dehne & Schupp, 2007). Possible answers were given on a 7-point Likert type scale. One major advantage of this approach is that the descriptive results with respect to the measurement of personality traits can be compared to a general population survey. The items were normalized as described in Dehne and Schupp (2007) and have a mean value of 50. The cronbach's alpha values of the traits range between 0.5 and 0.72. So, the internal reliability of the traits is fairly low but comparable to the values in the GSOEP study. Table 1 shows the Big Five items that were presented in random order to the respondents on an extra page in the online survey.

Willingness to Accept Unfavorable Job Characteristics

To provide a real-world validation and compare the results to the acceptance intentions, we selected a data setup which is displayed in Figure 2.

We restrict our sample to all women who were not employed (including marginally and occasionally employed) when the online factorial survey was con-

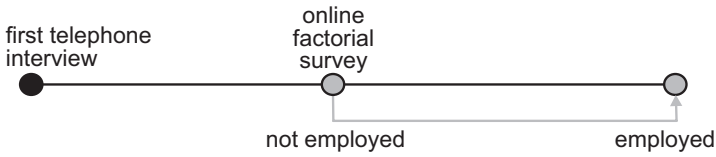

Figure 2 Real-world validation setup

ducted and examine whether they are employed full- or part-time in the follow-up interview about a year later. Thus, we excluded women who were not employed when the first interview was conducted but already reported being employed in the online survey.

As an additional independent variable, we compute a variable that examines the individual deviance (on the vignette level) from the average judgement of the given vignette (without the respondent's own individual judgement to avoid a bias to the average judgement). Thus, the computation of the average judgement on the vignette level is based on around 40 judgments with a range of 25-63 judgements. The following formula illustrates this:

$$Dev_{ij} = X_{ij} - \bar{X}_j \tag{1}$$

This variable displays broadly the individual willingness to accept unfavorable job characteristics as compared to others who are given the same vignette. The standard deviation of this variable amounts to 26 percentage points with a minimum value of -80 and a maximum value of 76, which indicates a large range (see Table A in the appendix). For the empirical analysis, the variable is standardized with a mean value of 0 and a standard deviation of 1.

Empirical Method and Results

Modeling Approach

As the dependent variable for one part of the analyses, we use the vignette judgment (Y). As the set of variables on the vignette level, we use the six job dimensions described above. Furthermore, we include variables on the individual level (Z), including the Big Five personality traits. Age, partnership status, age of youngest child, residence, duration of interruption, and educational attainment were also included as control variables as in Drasch (2013). Table A in the appendix shows the distribution of the independent variables.

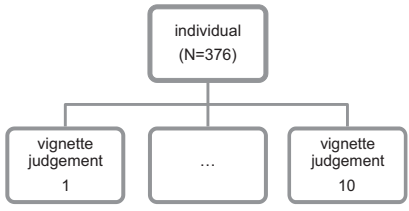

Figure 3a Vignettes nested in individuals

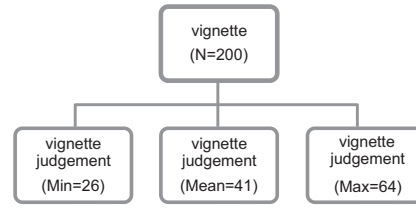

Figure 3b Judgments nested in vignettes

Thus, the data can be considered as multi-level data with two levels. On the superordinate level, the individual is set, and on the subordinate level, the judgment of the ten different vignettes (cf. Figure 3a) is set. However, the data structure becomes more complicated when including the individual deviance and examining realized entries. Then, an alternative approach is to view the vignette as a superordinate level and the different vignette judgements (ranging from 26 to 64 judgements per vignette) made by several individuals as a subordinate level. Figure 3b illustrates this.

Thus, individuals share not only common properties but also vignettes. Ideally, this leads to a 3-level mixed effects models with vignette judgements on level 1, individual characteristics on level 2, and vignette properties on level 3 (Rabe-Hesketh & Skrondal, 2012 a,b). However, the low number of cases makes it impossible to estimate such models.[3] As an alternative, we estimate (linear) random intercept models (Rabe-Hesketh & Skrondal, 2012a) that account for both structures separately and compare the results. As a robustness test, we also capture the structure by estimating cluster robust standard errors (Cameron & Trivedi, 2010).

To compare the results of the linear regression models used to analyze the vignette models on behavioral intentions and the logistic regression models used to analyze actual behavior, we estimate average marginal effects (AME) (Mood, 2010) for the logistic regression models. As such, they are comparable to effects estimated in linear regression models. The results of all models then display the impact in percent on the likelihood of re-entering employment either as behavioral intention or as actual behavior. To test the difference between the models obtained, we rely on two different strategies: on the one hand, we adopt a strategy proposed by Auspurg and Hinz (2011) and test whether the squared differences of regression coefficient and AME normed by the sum of both variances differ from zero. The distribution of the value of the test statistics follows a Chi-square distribution. What

3 Due to the low number of cases, the likelihood estimators in those models do not converge.

is problematic is that this test requires no covariance between both models – an assumption that is violated per se when estimating effects for the same group under study. On the other hand, we apply a seemingly unrelated regression (SUR) (Zellner, 1962; Cameron & Trivedi, 2010). However, this strategy is unable to capture the nested structure of the data completely and can only be applied to clustered data. Thus, we can never fully capture the structure of the data.

Real-world Validation: Re-entry Intentions and Realized Re-entries

To provide a real-world validation, we examine the influence of willingness to accept unfavorable job characteristics and its impact on realized re-entries. The vignette characteristics and the individual variables are identical to the variables used in the factorial survey. The results of different specifications of the model are displayed in Table 2.

We estimate four different model specifications of logistic regression models[4] on the likelihood of re-entering the labor market. Model 1 is a random intercept model without personality traits. Central to our model is the impact of the individual deviance. Indeed, the individual deviance displaying the re-entry intention of one person as compared to somebody else confronted with the same vignette has a positive impact on the likelihood of actually re-entering the labor market in reality. The effect is significant at the 0.05 level. Thus, the higher the willingness to pay for favorable job characteristics in general, the higher also is the likelihood that somebody re-enters the labor market. At first glance, it seems counterintuitive why the vignette characteristics are still included in the models, but only when doing so, we approach the controlled net effect of the impact of the individual deviance. Furthermore, we assume that it captures the effect of time-stable unobserved heterogeneity arising from characteristics we cannot control for. From the vignette characteristics, only working fewer hours than planned as compared to more than planned increases the likelihood of re-entering the labor market.

In model 2, we also included personality traits. From those, only extraversion has a significant, positive impact on re-entry. Extraverted means that individuals are engaged with the external world and enjoy company or are active, for example. Thus, it seems rather plausible that those individuals are more likely to re-enter. Also, we can see almost identical results as compared to model 2. Again, the impact of the individual deviance from the average vignette judgment is positive and significant. When we transfer the odds ratio of the variable into an AME (Mood,

4 The results are displayed as odds ratios (ORs). A value of the OR greater than one can be interpreted as a positive influence and a value less than one as a negative influence on the dependent variable.

Table 2 Big Five and realized job entries, different model specifications

	(1) without	(2) person ri	(3) vignette ri	(4) xtmixed
vignette characteristics				
individual deviance (standardized)	1.293* (0.144)	1.292* (0.143)	1.116 (0.0764)	1.009* (0.004)
phase: just started ref. already searching for a while	1.146 (0.210)	1.144 (0.208)	1.065 (0.113)	1.006 (0.006)
situation: no open applications left ref. some applications left	1.142 (0.169)	1.143 (0.167)	1.073 (0.113)	1.005 (0.007)
training: slightly over-qualified ref. clearly over-qualified	1.261 (0.262)	1.260 (0.259)	1.151 (0.141)	1.009 (0.008)
training: according to training/abilities	1.059 (0.228)	1.061 (0.226)	1.065 (0.140)	1.004 (0.008)
working hours: as desired ref. more than planned	1.039 (0.245)	1.040 (0.243)	1.075 (0.143)	1.003 (0.008)
working hours: less than planned	1.452# (0.317)	1.451# (0.313)	1.206 (0.151)	1.014# (0.008)
commuting time: 15 minutes ref. 45 minutes	1.206 (0.235)	1.207 (0.233)	1.122 (0.143)	1.008 (0.008)
commuting time: 30 minutes	0.990 (0.217)	0.992 (0.216)	0.996 (0.131)	1.000 (0.008)
wage: 10 percent less ref. according to previous job	1.029 (0.240)	1.031 (0.238)	1.067 (0.137)	1.001 (0.008)
wage: 30 percent less	1.008 (0.212)	1.010 (0.210)	1.019 (0.139)	0.999 (0.008)
working hours: flexible ref. fixed	1.015 (0.222)	1.015 (0.220)	1.006 (0.130)	1.000 (0.008)
working hours: agreed upon with supervisor	0.962 (0.223)	0.963 (0.221)	1.009 (0.128)	1.000 (0.008)
individual characteristics				
partner employed full-time ref. partner employed less than full-time	4.380# (3.516)	4.275# (3.449)	1.796** (0.326)	1.043# (0.025)
child under 6 in household ref. no	0.963 (0.635)	1.142 (0.806)	1.058 (0.228)	1.002 (0.030)
age (in years)	1.062 (0.048)	1.066 (0.052)	1.021 (0.014)	1.002 (0.002)
unemployed ref. not unemployed	4.253** (2.137)	4.363** (2.264)	1.916*** (0.210)	1.050* (0.021)

Table 2 continued

	(1) without	(2) person ri	(3) vignette ri	(4) xtmixed
tertiary education ref. no	1.172	1.089	0.896	0.996
	(0.527)	(0.535)	(0.110)	(0.021)
duration of interruption (in years)	0.999	0.999	1.008	1.001
	(0.038)	(0.041)	(0.010)	(0.002)
living in new federal states	1.774	1.819	1.236	1.026
	(1.030)	(1.130)	(0.234)	(0.028)
first cohort ref. cohort 2	1.947	2.049	1.471***	1.028
	(0.910)	(1.023)	(0.167)	(0.020)
participation group	0.834	0.873	0.825	0.984
	(0.378)	(0.410)	(0.102)	(0.020)
Big 5: extraversion		1.044*	1.016**	1.001
		(0.021)	(0.005)	(0.001)
Big 5: openness		0.995	0.999	1.000
		(0.016)	(0.004)	(0.001)
Big 5: neuroticism		0.988	0.988#	0.999
		(0.025)	(0.007)	(0.001)
Big 5: conscientiousness		1.009	1.007	1.000
		(0.024)	(0.006)	(0.001)
Big 5: agreeableness		0.962	0.978**	0.999
		(0.028)	(0.008)	(0.001)
random intercept standard deviation	4.216	4.009	0.002	
(sigma_u)	0.844	0.830	0.000	
individuals	376	376	200	
observations	3725	3725	3725	3725

Exponentiated coefficients (OR); Standard errors in parentheses
# $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

2010), we can conclude that a one-point increase in the individual (standardized) deviance increases the re-entry probability by 26 (25.62) percentage points. In both models 1 and 2, this variable was included and we find a small positive and significant effect (at the 0.05 and 0.1 significance levels). Thus, the more willing a woman is to accept unfavorable job characteristics as examined in the factorial survey, the more likely it is that she takes up a job with less favorable characteristics. The estimated intra-class correlation rho is high (0.83). In sum, intentions and realized decisions are closely related, thereby finding preliminary support for hypothesis 1.

With respect to hypothesis 2 on the impact of personality traits, we find evidence against this because personality at least partly matters.

However, in models 1 and 2, individual characteristics become more important: Having a partner who is employed full-time compared to a partner who is employed less than full-time increases the likelihood of re-entering the labor market. This result is counterintuitive but can eventually be attributed to the low variation of the variable, which can also be seen in the high values of the standard error of this variable. Additionally, being registered as unemployed increases the likelihood of re-entering the labor market, which is in line with general expectations.

Models 3 and 4 incorporate the idea that vignette judgements are also nested in vignettes. When we look at the results of model 3 where we set the random intercept on the vignette and not the person level, we find no significant influences on the vignette level any more. Furthermore, the intra-class correlation is almost zero, indicating that modeling this structure is not necessary. Model 4 includes the deck level and the individual level in the analysis but is estimated with a mixed effects model. Again, none of the vignette characteristics is highly significant. This is also the case for personality characteristics.

Impact of Big Five Items on Job Acceptance Intentions

First, we examine the impact of the Big Five items on job acceptance intentions. Table 3 displays the results of different specifications of the model.

In model 1, we estimate a standard model including vignette characteristics and control variables without including personality traits. This model serves as a control model for our other results and has been discussed extensively from both a theoretical and empirical point of view in Drasch (2013). On the vignette level, apart from the search phase, all other characteristics have a significant impact on the willingness to accept a job offer. With respect to the other vignette characteristics and control variables on the individual level, the results remain rather stable compared to substantial research on this topic. In sum, we can conclude that mothers are willing to pay for better job characteristics in the sense that they favor jobs that are assumed to be more easily reconciled with family obligations. The intra-class correlation rho corrected for the number of variables amounts to 40.8 percent, and the LR test of the random intercept model against a linear regression model is significant, indicating that incorporating the data structure in the modeling approach as a multi-level model is indeed necessary.

The second model includes the Big Five personality traits. The model shows that apart from the personality trait conscientiousness, none of the other personality traits displays a significant effect on the willingness to accept a job offer. Thus, people who display a high level of responsibility for themselves as well as for others and who are organized, hardworking and ambitious are more likely to take up a fic-

tive job offer. The effect itself is small. For example, a 10-point increase in the value of the conscientiousness scale increases the acceptance rate by about 2.8 percent. All other personality traits do not matter. The effects are insignificant and, aside from that, almost zero. In addition, the intra-class correlation becomes smaller, indicating less explanatory power of a model with personality traits than without. In sum, we find some weak evidence against hypothesis 2 that personality traits and behavioral intentions are not related.

Model 3 shows the coefficients of a standard linear regression model with cluster robust standard errors (Cameron & Trivedi, 2010). The results of this model are

Table 3 Big Five and job acceptance intentions, random intercept and clustered models

	(1) standard	(2) + Big 5	(3) cluster
vignette characteristics			
main phase: just started	-0.376	-0.376	-0.376
ref. already searching for a while	(0.648)	(0.647)	(0.556)
situation: no open applications left	2.118**	2.121**	2.223***
ref. some applications left	(0.649)	(0.649)	(0.657)
training: slightly over-qualified	5.417***	5.415***	5.339***
ref. clearly over-qualified	(0.801)	(0.801)	(0.888)
training: according to training/abilities	9.056***	9.059***	9.039***
	(0.798)	(0.797)	(0.876)
working hours: as desired	15.58***	15.58***	15.62***
ref. more than planned	(0.800)	(0.799)	(1.014)
working hours: less than planned	8.806***	8.812***	8.850***
	(0.794)	(0.793)	(0.987)
commuting time: 15 minutes	22.41***	22.41***	22.27***
ref. 45 minutes	(0.794)	(0.793)	(1.124)
commuting time: 30 minutes	15.07***	15.06***	14.91***
	(0.798)	(0.797)	(0.991)
wage: 10 percent less	-5.102***	-5.091***	-5.058***
ref. according to previous job	(0.803)	(0.803)	(0.840)
wage: 30 percent less	-18.40***	-18.39***	-18.21***
	(0.797)	(0.796)	(1.038)
working hours: flexible	8.757***	8.754***	8.857***
ref. fixed	(0.797)	(0.797)	(0.937)
working hours: agreed upon with supervisor	7.084***	7.077***	7.297***
	(0.797)	(0.797)	(0.911)

Table 3 continued

	(1) standard	(2) + Big 5	(3) cluster
individual characteristics			
partner employed full-time ref. partner employed less than full-time	0.786 (2.131)	1.095 (2.113)	0.0399 (2.248)
child under 6 in household ref. no	0.823 (2.693)	1.041 (2.661)	1.958 (2.798)
age (in years)	-0.0158 (0.193)	0.00881 (0.193)	-0.0774 (0.192)
unemployed ref. not unemployed	4.857** (1.828)	4.759** (1.807)	5.564** (1.848)
tertiary education ref. no	4.181* (1.887)	4.435* (1.872)	4.350* (1.861)
duration of interruption (in years)	0.137 (0.180)	0.114 (0.178)	0.126 (0.195)
living in new federal states	2.412 (2.426)	2.603 (2.402)	3.314 (2.438)
first cohort ref. cohort 2	3.476 (1.810)	3.540* (1.779)	2.215 (1.773)
participation group	-1.272 (1.834)	-1.282 (1.804)	-0.949 (1.768)
Big 5: extraversion		-0.0384 (0.076)	-0.0200 (0.079)
Big 5: openness		-0.0391 (0.061)	-0.0300 (0.062)
Big 5: neuroticism		0.0924 (0.083)	0.0592 (0.087)
Big 5: conscientiousness		0.284** (0.091)	0.271** (0.091)
Big 5: agreeableness		0.108 (0.101)	0.0946 (0.106)
constant	31.04*** (7.623)	9.273 (10.74)	14.90 (10.41)
random intercept standard deviation	16.38***	16.03***	
(sigma_u)	(0.691)	(0.680)	
level 1 residual standard deviation	19.73***	19.73***	
(sigma_e)	(0.241)	(0.241)	
rho	0.408	0.398	0.267
individuals	376	376	(Pseudo-R^2)
observations	3725	3725	3725

Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

almost identical to the results of the multilevel models, indicating stability of the results with respect to different estimation strategies.

Impact of Big Five Items and Realized Re-entries

Table 4 provides a different approach to answering the question of whether behavior and behavioral intentions are related. We now focus on the influence of individual characteristics on the re-entry probability on the individual level with and without controlling for personality traits. Because coefficients as provided by linear regression models and odds ratios provided by logistic regressions cannot be compared over different models (Mood, 2010; Auspurg & Hinz, 2011), we estimate AMEs for the logistic regressions models. Those are comparable over different model specifications, cohorts and samples.

Model 1 includes individual control variables. The only significant influence factors on realized re-entry for the group under study are the unemployment status and having a tertiary degree. Being registered as unemployed increases the re-entry probability by 8.3 percentage points. When we compare this to the results as provided by model 1 in Table 3 where the impact on re-entry intention was 4.8 and test for differences between those two coefficients with seemingly unrelated regression, the difference is significant. Furthermore, having a tertiary degree increases the re-entry probability by 4.1 percentage points, and the difference is significant at the 0.1 level. In addition, a seemingly unrelated regression indicates a significant difference at the 0.1 level. The Chi-2-test, however, displays no significant differences between the coefficients of both models.

Model 2 in Table 4 also includes personality traits. Again, an unemployment effect can be found: Registered unemployed women have an approximately 8.03 percent higher probability of actually re-entering the labor market, which is different from the intentions of model 2 in Table 3 where the effect amounts to 4.7 percent with significance at the 0.01 level. Testing whether both coefficients differ from each other, we find that the effect is significant at the 1 percent level. Additionally, the tertiary education effects are different. The overall model test of the seemingly unrelated regression is significant and allows for the following conclusion: including personality traits in the modeling approach seems to enlarge the differences between behavioral intentions and actual behavior.

Personality traits are not related to realized entries, none of the personality traits displays a significant influence on realized re-entry. Testing for differences compared to the re-entry intention model, it can be concluded that the effect of extraversion (0.171 vs. -0.0384 in the intentions model 2 Table 1) as well as conscientiousness (-0.069 vs. 0.284 and significant as displayed by the Chi2-Test at the 0.01 level) is different in models examining intentions versus realized re-entries. Thus, behavioral traits only have a minor impact in the intention models and no

Table 4 Big Five and realized re-entries, logistic regression model AMEs

	(1) controls	SUR	Chi-2-	(2) + Big 5	SUR	Chi-2
individual characteristics						
partner employed full-time ref. partner employed less than full-time	4.394 (3.884)			3.753 (3.903)		
child under 6 in household ref. no	0.504 (4.395)			0.302 (4.44)		
age (in years)	0.109 (0.314)			0.136 (0.32)		
unemployed ref. not unemployed	8.327** (3.169)	**		8.033* (3.136)	***	
tertiary education ref. no	4.098 (3.022)	#		3.497 (3.052)	*	
duration of interruption (in years)	-0.107 (0.293)			-0.100 (0.292)		
living in new federal states	-1.658 (4.075)			-1.170 (4.108)		
first cohort ref. cohort 2	5.335 (3.265)			5.475# (3.263)		
participation group	-0.977 (2.972)			-0.836 (2.992)		
Big 5: extraversion				0.171 (0.126)		***
Big 5: openness				-0.137 (0.099)		
Big 5: neuroticism				0.033 (0.137)		
Big 5: conscientiousness				-0.069 (0.149)	*	*
Big 5: agreeableness				-0.150 (0.169)		
Observations	378			378	** (Overall model)	
Pseudo R-squared	0.0590			0.0724		
Prob > chi2	0.131			0.262		
LR chi2	13.77			16.89		

Standard errors in parentheses
# p<0.10, < 0.05, ** p < 0.01, *** p < 0.001

impact in the behavioral model. In sum, this indicates that personality traits only have a minor importance, finding at least some support for hypothesis 2. Moreover, the effect sizes of the individual variables remain stable in models 1 and 2 indicating that the effects are similar not controlling and controlling for personality traits.

Summary

This paper examines the relation of behavioral intentions as measured with the FS approach and actual behavior. Furthermore, it examines the role of personality traits in shaping this relation. This is necessary because results from FS are often equated with actual behavior while in reality, intentions are measured. Furthermore, one can argue that personality traits might influence intentions and actual behavior differently because individuals with different personality traits might react differently to the fictive stimuli provided by FS. This can be examined with research that is able to examine both the impact of personality traits on behavioral intentions and actual behavior in the same context. The FS embedded in the evaluation project 'Perspektive Wiedereinstieg', which examined women who have been out of the labor force for several years but are in the process of re-entering the labor market, provided this rare opportunity.

In the real-world validation, by looking at the association between re-entry intentions and realized entries, one finds that they are significantly correlated. All in all, this points to the high external validity of vignette measurements. However, when testing for differences in individual characteristics, some differences can be found. These results are similar to those from Nisic and Auspurg (2009) with respect to differences in magnitude but mostly not in the decision of whether they have a significant influence.

In line with psychological theory, personality traits as measured by the Big Five do not (really) matter for behavior and behavioral intentions. We find a significant influence of conscientiousness on the willingness to accept a job offer, but we think that these results should not be over interpreted because the effect vanishes when looking at realized re-entries. Although it seems reasonable to assume that individuals that are more conscientious are more willing to accept less favorable jobs, we see these findings congruent with previous researchers' results which find an impact of other personality traits on decisions connected with mothers' employment. Although personality traits seem to matter in each of the studies, controlling or not controlling for them does not substantively alter the overall findings of the research work. In sum, this refers to the conclusion that it is not necessary to include the measurement of personality traits in factorial surveys, although they do have some impact.

However, there are some shortcomings associated with this study. First, the theoretical model is based on the assumption that the decision is under the volitional control of the individual. For obvious reasons, this might not be the case for labor market re-entries because, first, an employer must be found who hires a woman who often has been out of employment often for several years before an actual re-entry can be realized. To relax this severe deficit, one can argue that our study does not distinguish re-entries according to the volume of work but merely looks at a yes/no re-entry decision.

Second, more research is needed to examine methodological issues with respect to the relevance of job characteristics for job acceptance. Admittedly, to a certain extent our dimensions have been chosen arbitrarily through common sense. As such, however, they must be seen as examples of job characteristics that can be relevant. Future research could also make use of adaptive vignette designs by using information on previous jobs (e.g., Abraham et al., 2013), for example, by including previous wages and job conditions in the study. This was not possible in our survey due to data protection issues.

Furthermore, the results are naturally limited to the specific group under study, which is long-term non-employed mothers seeking employment. Future research could benefit from studying behavioral intentions, for example, job acceptance intentions from a much more diverse group. This requires a representative sample and a larger study context.

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Table A Descriptive results

Variable	N	Mean	Std. Dev.	Min	Max
vignette judgement	3,725	61.72	29.75	1.00	100.00
individual deviance vignette	3,725	0.077	26.68	-80	76.1
Big 5: extraversion	3,725	50.58	16.34	-11.19	88.79
Big 5: openness	3,725	50.57	18.59	-1.53	87.62
Big 5: neuroticism	3,725	50.23	11.01	17.28	80.90
Big 5: conscientiousness	3,725	50.71	11.55	2.19	84.11
Big 5: agreeableness	3,725	50.57	9.85	8.54	80.89
partner employed fulltime	3,725	0.77	0.42	0.00	1.00
child under 6 in household	3,725	0.17	0.38	0.00	1.00
age (in years)	3,725	42.16	6.36	25	60
registered unemployed	3,725	0.44	0.50	0.00	1.00
tertiary education	3,725	0.42	0.49	0.00	1.00
duration of interruption	3,725	10.65	6.58	0.00	29.67
living in new federal states	3,725	0.19	0.39	0.00	1.00
first cohort	3,725	0.58	0.49	0.00	1.00
participant group	3,725	0.49	0.50	0.00	1.00